

ON LYMPHADENOMA.

CONTRIBUTION TO A DISCUSSION
IN THE SECTION OF PATHOLOGY AND BACTERIOLOGY,*At the Annual Meeting of the British Medical Association,
Cheltenham, July-August, 1901.*By J. H. BRYANT, M.D., F.R.C.P.,
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Dr. BRYANT said: In this discussion of the pathology of lymphadenoma I shall confine myself to a few remarks on the relation fibrosis bears to lymphadenoma. My interest in this particular point was aroused by the following case which I had the opportunity of investigating. Clinically no doubt was felt about the diagnosis of lymphadenoma being correct; at the *post-mortem* examination, however, there were such marked fibroid changes in the parts involved, and the organs presented such an unusual appearance that the question of it being due to some other conditions arose, and when specimens were subsequently examined under the microscope the doubt increased and the possibility of syphilis was raised. I submitted specimens to two of my colleagues skilled in the examination of pathological specimens, one held the view that the changes were probably due to syphilis, the other that they were the result of chronic lymphadenoma.

As I have already stated there was no doubt clinically about the diagnosis of lymphadenoma, but when the possibility of syphilis arose as it seemed to me with such an obscure disease as lymphadenoma as far as the pathology is concerned, such a case as I am about to relate to you would form a text on which to discuss the relation fibrosis bears to lymphadenoma, and the connection, if any, that syphilis has to this disease.

C. L., aged 41, race official, was admitted into Philip Ward, Guy's Hospital under the care of Dr. Hale White (to whom I am indebted for permission to publish the clinical notes) on May 8th, 1899, for swellings in the neck, axillæ, and groins, and for wasting, anemia, and indigestion.

He was born in Surrey and had been connected with the turf all his life, having served as stable boy and jockey, but during the last 20 years his work had not been arduous, consisting chiefly of looking after the carriage enclosure at race meetings. He stated that he had always been moderate with regard to alcohol. His family history was good. His father was alive and aged 79, mother 71, two sisters 39 and 44, and one brother 36 all of whom were well; 20 years ago he contracted gonorrhœa, and this was the only illness he had had with the exception of a few minor accidents until four years before, when his present trouble began to manifest itself. He first noticed a swelling under the left ear, which increased in size until the whole of the neck became involved in a large lumpy tumour, the right side of the neck then became enlarged; then the axillæ and finally the groins. He stated that the tumours have varied in size very much. At first he did not give up his work, but he

gradually became weaker, lost weight, and had to give it up. During the five months before he was admitted he had been troubled with a nasty cough, and he used occasionally to spit up bright red blood. Another troublesome symptom had been general itching of the skin, especially over the tumours. Six weeks before admission the cough became worse, he felt much weaker and suffered from indigestion. He used to vomit after meals, and also complained of an acid taste in his mouth.

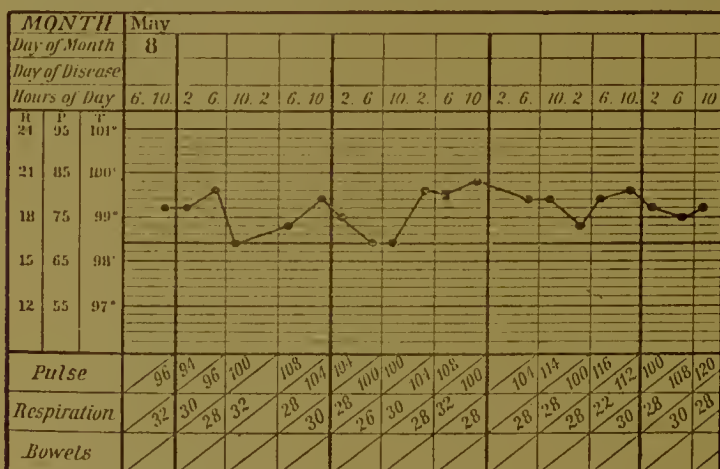
State on Admission.—Pulse, 108; temperature, 98.4°; respirations, 32. The skin was rather dusky, but there was decided anaemia. He was rather wasted. The hair was dark. The pupils were equal and reacted to light and accommodation.

(1) *Lymphatic System.*—There was very considerable enlargement of the lymphatic glands, the whole of the left cervical glands, superficial and deep were involved in a large botryoidal growth the limits of which were: Above the ear; below the clavicle; in front, the middle line of the neck some distance over the angle of the jaw, the parotid lymphatic glands being also involved; behind, a vertical line two inches away from and parallel with the vertebral column. The measurements were eight inches from above downwards and five inches from before backwards. There was no fluctuation. An aspirating needle was introduced into the left side of the neck, but nothing was withdrawn.

(2) *Right Side of the Neck.*—A chain of ten or twelve glands could be seen and felt running vertically down from behind the ear to the middle of the clavicle varying in size from a hazel nut to a pea. The largest was just in front of the ear overlying the zygoma.

(3) *Right Axilla.*—A large tumour three inches from above downwards and from side to side occupied the space between the axilla and the breast. It was hard but was not fixed. A large glandular mass about three inches from above downwards and as thick as a cartridge occupied the posterior fold.

(4) *Left Axilla.*—One enlarged gland the size of a walnut was felt beneath the pectoralis major. There were no glands involved in either arm.



(5) *The Groins.*—In the left groin there were two glands as large as walnuts, and in the right groin three small glandular tumours. None of the glands in the leg were enlarged. The glands varied in consistency, some being as hard as bullets, whilst others were soft and almost fluctuating, for example, the left cervical mass. Some were loosely fixed to sub-jacent parts and others were quite loose.

Urine, 1032, high coloured; acid; deposit of urates; some albumen present; no sugar; urea 2.2 per cent.

Abdomen.—The liver and spleen were not palpable.

Respiratory System.—Chest long and rather narrow. The left side did not move as freely as the right. Dulness behind on the right below the ninth rib, and below the tenth on the left. Deficient entry of air at the right base. The sputum contained a little bright red blood. No tubercle bacilli were found.

Circulatory System.—Pulse full, 108. Cardiac impulse felt in fifth space just below and internal to the left nipple. Cardiac dulness normal. A faint diastolic *bruit* was heard in the second and third left intercostal spaces close to the sternum.

Blood.—Red blood corpuscles, 4,000,000; hæmoglobin, 60 per cent. No leucocytosis. A good many eosinophile cells were noticed.

Diagnosis.—Dr. Hale White diagnosed Hodgkin's disease with right pleuritic effusion.

Progress.—The patient was ordered 6 minim doses of liq. arsenicalis three times a day.

May 15th.—He complained of indigestion.

May 19th.—He was troubled by cough, and was relieved by the linctus codeinae.

May 24th.—There was marked œdema of both legs, the penis, and scrotum, and over the sacrum and abdomen up to the manubrium. Two fresh glands were felt in the right axilla and three in the left.

May 26th.—The area of dulness on the left side of the chest had increased.

June 6th.—The glandular mass in the left side of the neck had increased. The skin appeared to be more dusky. The dulness had increased on the right side of the chest to the level of the second rib. The arsenic was increased to 7 minims.

June 8th.—There was signs of fluid in the peritoneal cavity.

June 9th.—The urine contained no albumen.

June 11th.—The abdomen had increased in size, and the œdema of the legs was more marked.

June 14th.—Paracentesis abdominis to 5 pints 12 ounces was performed. The fluid was turbid and rather milky in appearance, it was neutral, the specific gravity was 1014. It contained albumen. The turbidity was not cleared up by ether. Microscopically a good many leucocytes were found, but no fat globules.

June 20th.—Paracentesis abdominis was again performed, and about 9 pints of chylous fluid was withdrawn. He was much relieved by the tapping.

June 24th.—He was again tapped.

June 27th.—The right pleural cavity was aspirated and 68 ounces of clear serous fluid was removed. At the end of the aspiration he coughed up a little bright red blood.

June 30th.—Sharp crackling *râles* were heard over the third and fourth left intercostal spaces in front. The aortic diastolic *bruit* was still audible. The lymphatic glands were swollen all over the body.

July 4th.—The abdomen was again tapped and 5 pints of chylous fluid was withdrawn. He was obviously much worse, and gradually sank and died from cardiac failure.

Necropsy.—The necropsy was performed fifteen hours after death. There were no signs of decomposition. There was well-marked rigor mortis. The body was very anæmic, it was fairly well nourished. There was no anasarca, sores, scars, or injuries. The brain weighed 51 ozs. There was no meningitis and it was quite healthy in appearance. The axillary glands were hard and much enlarged. The cervical glands were hard and very much enlarged also, causing a marked prominence of the neck on either side. The skin was not adherent to the glands, but it had the appearance of being tightly stretched. On making a section of the tumours formed by these masses of enlarged glands it was found to be quite impossible to trace the outline of the individual glands; they appeared to have fused together to form one large tumour. The lower part of the section presented a greenish yellow appearance, and it was rather soft, whereas the upper part was much firmer and tougher, was of a greyish colour, was opaque, and felt like and had the appearance of fibrous tissue. The thyroid was not enlarged. Three pints of yellow serous fluid were found in the right pleural cavity. The right lower lobe was covered with recent yellow lymph which readily peeled off, beneath it were many subpleural ecchymoses. Over the upper part of the right upper lobe the pleura was thickened and puckered. Several hard nodules could be felt in the lower lobe and on section nodules of growth from $\frac{1}{8}$ inch to 1 inch in diameter were seen. Some of these nodules had a somewhat ragged, shreddy appearance in their centres as if commencing to break down. The peripheral parts of the nodules were of a greenish yellow colour streaked with brown, and the central parts were of a light brownish colour. Similar nodules were found in the left lower lobe. The rest of the lung was œdematous and there was a good deal of fibrous tissue infiltrating the lung. The bronchial and mediastinal glands were hard and enlarged and the right vagus nerve was found attached to and stretched over one of these large glands.

The larynx, trachea, and bronchi were all normal. Several small, hard, yellowish grey nodules were found on the pericardial sac. There was marked œdema of the pericardium. The heart weighed 9½ ozs. The valves and cavities appeared to be normal. The muscle was pale. The aorta was surrounded by hard dense tissue, which had the appearance of being due to chronic inflammation or possibly to new growth.

One large spherical nodule, about 2 c.cm. in diameter, was found on the anterior surface of the stomach, a little nearer to the cardiac than to the pyloric end. It appeared to have developed from the peritoneum, it did not involve the mucous coat. Several nodules of growth were found in the intestine: one large nodule extended from the mesocolon into the

muscular and submucous coats of the colon just above the sigmoid flexure, but it did not implicate the mucous membrane. There was also one large nodule projecting into the transverse colon through the mucous membrane, the mucous surface being ulcerated and crateriform in appearance. It was pigmented, and there was also some blood on its surface. There was no ascites. The mesenteric glands were enlarged.

The liver weighed 1701 grams; it had a markedly spotted appearance, dilated lymphatic and numerous small nodules were seen projecting from the surface, mostly over the lower and inner quarter of the right upper lobe. On section a large number of yellowish round nodules were seen, varying in size from a mere speck to 75 c.cm. in diameter. This organ had the appearance of lymphadenoma more than any of the others examined. A large gland was found close to the neck of the gall bladder, another also was found near the head of the pancreas.

The spleen weighed 438 grams; it was large, hard, and nodular. Large nodules were seen on section, having a vascular, reddish brown, streaked and striated appearance. These nodules could be peeled out, although there did not appear to be any definite capsule. There were also a large number of small, hard, yellowish, fibrous-looking nodules.

The suprarenal capsules were healthy in appearance. The kidneys weighed 226 grams. The capsules were not thickened or adherent. The surfaces were smooth. On section the appearance was normal.

Microscopical Examination.—The nodules in the lungs were made up chiefly of fibrous tissue, and in places there were collections of lymphoid cells. A good many capillaries distended with blood were seen. In addition to the lymphoid cells a few isolated cells, which were quite twice as large as the lymphoid cells, were seen scattered about. These cells contained large, rather deeply stained nuclei, and they were also noticeable in the sections of the other organs.

The suprarenal capsules showed a good deal of fibrous infiltration. Isolated lymphoid cells and groups of cells were also visible in the fibrous tissue.

The glands showed very marked fibrous change with collections of lymphoid cells scattered about in the midst of it. The reticulum had a very thickened appearance.

The reticulum of the spleen was much thickened and fibroid. In places only the fibrous tissue could be seen. Collections of lymphoid cells were visible in the midst of the fibrous tissue. This organ presented a very similar appearance to the glands. The myocardium showed very little striation. The muscle fibres contained a good many pigment granules, which were arranged in groups on one side of the nucleus in the long axis of the fibres. The small nodules in the pericardial sac consisted of collections of lymphoid cells surrounded by fibrous tissue. There was a good deal of fibroid change in the liver. The fibrous tissue occurred in irregular-shaped patches, and was not confined to the immediate neighbourhood of Glisson's capsule. Isolated cells and groups of liver cells were seen in the midst of this fibrous tissue, and it had the appearance of a very marked but patchy interlobular and intercellular cirrhosis. In some of the patches a good many lymphoid cells were seen, but not nearly as many as are usually seen in a case of lymphadenoma.

I showed these sections to several of my colleagues and a variety of opinions were expressed. The liver certainly suggested a syphilitic cirrhosis, the lungs a gummatous condition, and the nodules in the pericardium lymphadenoma. There was no evidence of tuberculosis.

On the whole, it was thought that the condition was a very chronic lymphadenoma associated with marked fibrosis.

Remarks.—The macroscopic appearances of the organs were most peculiar and by no means characteristic of lymphadenoma. The most marked feature presented by the sections examined microscopically was the large amount of fibrous tissue present. This was particularly noticeable in the glands, spleen, and liver. In the liver the fibrous tissue was unequally grouped between the lobules, but was by no means confined to this area, for in many places it was infiltrating the lobules themselves, here and there replacing, and here and there surrounding the liver cells—in fact, the change had the appearance of a mixed interlobular and intercellular cirrhosis. There was only one part of the body in which a lesion quite typical of lymphadenoma could be found, and that was in the pericardium.

One of the first questions which naturally arises is: Is this a case of lymphadenoma or tertiary syphilis? The changes in the pericardium point to lymphadenoma, those in

the spleen and glands might be the result of syphilis or equally well of lymphadenoma. The changes in the liver, especially the irregular and intercellular distribution of a good deal of the fibrous tissue, suggested syphilis.

If it is agreed that the case was one of lymphadenoma, the next question which arises is, Had syphilis anything to do with it? Was it the cause of the fibrosis of the glands, spleen, liver, etc.? There was no direct evidence of syphilis, but there was a clear history of gonorrhœa twenty years before he was admitted. He had from all accounts led a rather loose life, and without much doubt had frequently exposed himself to the possibility of a syphilitic infection. If syphilis had anything to do with the production of this condition, the next question which has to be considered is: Is syphilis a predisposing or exciting etiological factor in the production of Hodgkin's disease generally? The evidence is decidedly against this view, in Gowers's 184 cases there were only 3 in which any history or evidence of syphilis could be traced.

There is another explanation for the fibroid changes in the liver, and it is that, in addition to lymphadenoma, the patient was suffering from alcoholic cirrhosis. The one point against this view is the curious distribution of the fibrous tissue in places which certainly suggests the possibility of a syphilitic infection. There is no definite evidence of alcoholism, but his occupation was undoubtedly alcoholic, and it is quite possible that what was moderate with regard to alcohol to him was not moderate to his liver. If this interpretation is put on the case, it would be then looked upon as lymphadenoma complicated by cirrhosis of the liver; and this, I think, is the most likely interpretation.

Another possibility is that it is a chronic uncomplicated case of lymphadenoma with secondary fibroid changes. Fibrosis of the glands, and even of the spleen, is generally accepted as a change which may result in lymphadenoma, but such a markedly cirrhotic condition of the liver is most unusual, and a further question arises, Does lymphadenoma lead to such marked cirrhosis of the liver?

I think, without doubt, some other changes—such as that which may result from syphilis and alcoholism, must be added to lymphadenoma to explain these pathological changes satisfactorily.

I am afraid this case does not help much to clear up the pathology of lymphadenoma, but it raises some interesting questions, and that was my reason for bringing it forward to-day. With regard to the pathology of lymphadenoma, I am quite in accord with Professor Clarke, that it is a separate disease, and, further, that it will eventually prove to be the result of an infective process.

